

Title (en)
MODULAR INSTALLATION AND ASSEMBLY SET FOR A MODULAR INSTALLATION

Title (de)
MODULARE ANLAGE UND MONTAGESET FÜR DEN AUFBAU EINER MODULAREN ANLAGE

Title (fr)
INSTALLATION MODULAIRE ET SET DE MONTAGE POUR UNE INSTALLATION MODULAIRE

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Abstract (en)
[origin: CA2972137A1] The invention relates to a modular plant (1), in particular a modular industrial plant, comprising a plurality of cuboid-shaped plant modules (20, 40, 40a, 40c), which are arranged in two or more layers stacked one above the other. The modules have a support structure having fastening points (24, 24', 44, 44'), wherein the fastening points are provided for connecting a module to corresponding fastening points of the adjacent modules of a layer located above and/or below thereof. In the horizontal plane, the modules of a layer are connected to the adjacent modules of the layer located above and/or below thereof in a form-fit manner by means of a connection element (64) having the shape of a double cone or of a double conical frustum. At least one traction device (62, 70, 80) having a tension member (62) is provided, by way of which traction device a bottom layer of modules (40a) or a foundation block (6) can be impinged upon with a tensile force along the vertical, with respect to a top layer of modules (40c) such that along the vertical, the modules between said bottom layer (12) and said top layer (11) and the adjacent modules of the layer located above and/or below thereof are positively pressed together at the fastening points and are thus fixed in place.

Abstract (de)
Eine modulare Anlage (1), insbesondere eine modulare Industrieanlage, umfasst mehrere quaderförmige Funktionsmodule (20), die in zwei oder mehr Lagen übereinander gestapelt angeordnet sind, und mehrere Verbindungsmodule (40, 40', 40"). Ein Verbindungsmodul ist zwischen den sich gegenüber liegenden Seitenflächen zweier direkt benachbarter Funktionsmodule angeordnet, und ist an den entsprechenden Seitenflächen dieser Funktionsmodule jeweils an drei oder mehr in einer Ebene angeordneten Verbindungspunkten kraft- und/oder formschlüssig mit der Tragstruktur (78) der jeweiligen Funktionsmodule verbunden.

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Citation (applicant)
• EP 0572814 A1 19931208 - NUKEM GMBH [DE]
• US 6151844 A 20001128 - KOVACHEVICH LAZAR S [US]
• WO 2005121464 A1 20051222 - SADEF NV [BE], et al
• WO 9530814 A1 19951116 - EIC MANAGEMENT GMBH [DE]
• US 4766708 A 19880830 - SING PETER [US]
• WO 2014074508 A1 20140515 - FC & SKANSKA MODULAR LLC [US]
• GB 1244356 A 19710902 - BENNETT RONALD SINCLAIR [US]
• WO 2010031129 A1 20100325 - EKCO PATENT & IP HOLDINGS PTY [AU], et al
• WO 2004094752 A1 20041104 - LOCKE REGINALD A J [US]
• WO 2011061299 A1 20110526 - RV LIZENZ AG [CH], et al

Citation (search report)
[X] WO 2004051017 A1 20040617 - WINDOW JOHN [GB]

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EP 14200301 A 20141224; AU 2015370942 A 20151223; BR 112017013302 A 20151223; CA 2972137 A 20151223;
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DK 15817390 T 20151223; EA 201791468 A 20151223; EP 15817390 A 20151223; EP 19180788 A 20151223; EP 2015081223 W 20151223;
ES 15817390 T 20151223; GT 201700140 A 20170620; HR P20191623 T 20190909; HU E15817390 A 20151223; IL 25305717 A 20170621;
IL 29074922 A 20220220; JP 2017532902 A 20151223; JP 2020017941 A 20200205; KR 20177020693 A 20151223; LT 15817390 T 20151223;
MA 41239 A 20151223; MA 50420 A 20151223; ME P2019242 A 20151223; MX 2017007834 A 20151223; MY PI2017000938 A 20151223;
NI 201700079 A 20170619; NZ 73383615 A 20151223; NZ 76898215 A 20151223; PH 12017550029 A 20170621; PL 15817390 T 20151223;
PT 15817390 T 20151223; RS P20191177 A 20151223; SA 517381810 A 20170622; SG 11201705133U A 20151223; SI 201530900 T 20151223;
UA A201707742 A 20151223; US 201515538318 A 20151223; US 202117200361 A 20210312